Exhibit A

United States Senate
PERMANENT SUBCOMMITTEE ON INVESTIGATIONS
Committee on Homeland Security and Governmental Affairs
Carl Levin, Chairman
Norm Coleman, Ranking Minority Member

EXCESSIVE SPECULATION IN THE NATURAL GAS MARKET

STAFF REPORT
WITH ADDITIONAL MINORITY STAFF VIEWS

PERMANENT SUBCOMMITTEE ON INVESTIGATIONS

UNITED STATES SENATE

RELEASED IN CONJUNCTION WITH THE
PERMANENT SUBCOMMITTEE ON INVESTIGATIONS
JUNE 25 & JULY 9, 2007 HEARINGS

EXCESSIVE SPECULATION IN THE NATURAL GAS MARKET

JUNE 25, 2007

I. EXECUTIVE SUMMARY

Since 2001, the U.S. Senate Permanent Subcommittee on Investigations ("the Subcommittee") has been examining the structure and operation of U.S. energy markets. In June 2006, the Subcommittee issued a bipartisan staff report, *The Role of Market Speculation in Rising Oil and Gas Prices: A Need to Put the Cop Back on the Beat,*[1] analyzing the extent to which the increasing amount of financial speculation in energy markets has contributed to the steep rise in energy prices over the past few years. The report concluded: "Speculation has contributed to rising U.S. energy prices," but also that "gaps in available market data" made quantification of the speculative component problematic.[2] The report endorsed the estimate of various analysts that the influx of speculative investments into crude oil futures accounted for approximately $20 of the then-prevailing crude oil price of approximately $70 per barrel. The report's analysis was based entirely on publicly available data about the overall level of financial investments in energy markets and publicly available data on energy prices and supplies.

The Subcommittee's staff report recommended that the Commodity Futures Trading Commission ("CFTC") be provided with the same authority to regulate and monitor electronic energy exchanges, such as the Intercontinental Exchange ("ICE"), as it has with respect to the fully regulated futures markets, such as the New York Mercantile Exchange ("NYMEX"), to ensure that excessive speculation did not adversely affect the availability and affordability of vital energy commodities through unwarranted price increases. Congress has not taken any action since then to authorize CFTC oversight of unregulated energy markets like ICE.

Shortly after the Subcommittee issued the report in 2006, the natural gas market entered a period of extreme price volatility punctuated by the collapse in September 2006 of Amaranth Advisors LLC ("Amaranth"), one of the largest hedge funds in the natural gas market. From the last week in August until the middle of September 2006, Amaranth's natural gas positions lost over $2 billion in value, precipitating the liquidation of the entire portfolio of the $8 billion fund.

In late summer, natural gas prices began falling. For example, the price of the NYMEX futures contract to deliver natural gas in October 2006 fell from a high of $8.45 per MMBtu in late July to just under $4.80 per MMBtu in September, the lowest level for that contract in two and one-half years. The difference in price between the NYMEX natural gas futures contract for March 2007 and for April 2007 – called the price spread – fell from a high of nearly $2.50 per MMBtu in July to less than 60 cents in September, a drop of 75%. The price for the immediate delivery of natural gas, called the spot price, fell from $7.49 per MMBtu in late August to $3.66

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[1] S. Prt. No. 109-65, 109th Congress, 2nd Sess (June 27, 2006).
[2] *Id.*, at p. 6.

C. Market Regulation

Although both NYMEX and ICE play an integral role in natural gas price formation, the two exchanges are subject to vastly different regulatory restrictions and government oversight under current federal law.

Section 3 of the CEA states that the purpose of the Act is to establish "a system of effective self-regulation of trading facilities, clearing systems, market participants and market professionals under the oversight of the [Commodity Futures Trading] Commission." Under this tiered regulatory structure, the exchanges have the primary responsibility for market surveillance and oversight. The CFTC's regulatory program is designed to rely on the market oversight and surveillance conducted by the exchanges, but the CFTC also supplements the exchanges' efforts with its own surveillance and oversight of trading. One of the key purposes of the CFTC's commodity market surveillance and oversight is "to deter and prevent price manipulation or any other disruption to market integrity."[45]

Due to provisions in the Commodity Futures Modernization Act of 2000 (CFMA) that are often referred to as the "Enron loophole," electronic energy exchanges are exempt from this system of regulation.[46] The result is that one type of energy exchange – represented by NYMEX – is both self-regulated and regulated by the CFTC, whereas the other type of energy exchange – exemplified by ICE – is not required to be self-regulated and is not regulated by the CFTC. As will later be shown, ICE's exemption from regulatory oversight has undermined the effectiveness and market integrity of both ICE and NYMEX in pricing U.S. energy commodities.

1. Regulated Markets (NYMEX)

The CEA, as amended by the CFMA, requires that all futures contracts be traded on a futures exchange that has been approved by the CFTC as a "Designated Contract Market" (DCM). To qualify as a DCM, an exchange must develop a market regulation and oversight program that complies with the core principles set forth in the CEA. These core principles require a DCM to maintain certain programs and capabilities to prevent market manipulation and to ensure fair and orderly trading:

- "the ability to prevent market manipulation through market surveillance, compliance, and enforcement practices and procedures, including methods for real-time monitoring of trading and comprehensive and accurate trade reconstructions;"[47]

- the enforcement of rules to ensure fair and equitable trading;[48]

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[45] 7 U.S.C. § 5(b) (2006).
[46] The legislative history of the Enron loophole is set forth in the Subcommittee's previous reports. See Minority Staff of the Permanent Subcommittee on Investigations, *U.S. Strategic Petroleum Reserve: Recent Policy Has Increased Costs to Consumers but not Overall U.S. Energy Security*, S. Prt. 108-18, at p. 185, 108th Congress, 1st Sess. (Mar. 5, 2003).
[47] 7 U.S.C. § 7(b)(2) (2006).
[48] 7 U.S.C. § 7(b)(3) (2006).

- the enforcement of disciplinary rules that authorize the board of trade to discipline, suspend, or expel market participants that violate the rules of the exchange; [49]
- the trading only of contracts that are "not readily susceptible to manipulation;"[50]
- the monitoring of trading "to prevent manipulation, price distortion, and disruption of the delivery or cash-settlement process;"[51]
- the adoption of position limits or position accountability for speculators "to reduce the potential threat of market manipulation or congestion, especially during trading in the delivery month;"[52]
- the emergency authority to suspend trading in any contract, require traders to liquidate positions, or impose special margin requirements;[53] and
- daily publication of trading information.[54]

NYMEX is one of thirteen exchanges the CFTC has designated as a contract market.[55] To meet its obligations to monitor trading, prevent manipulation, and ensure the financial integrity of its markets, NYMEX has established a regulatory program, which is headed by a Chief Regulatory Officer, to monitor daily trading, determine overall and daily margin requirements, oversee and evaluate the conduct of brokers and traders, monitor the performance of clearing firms, establish and enforce position limits, investigate complaints, and bring enforcement actions for violations of the exchange's rules of conduct. The NYMEX regulatory program has an annual budget of approximately $6.2 million, most of which supports the salaries of the nearly 60 people in that program.

2. Unregulated Markets

a) ICE

None of these core principles apply to ICE. ICE has no legal obligation to monitor trading, no legal obligation to prevent manipulation or price distortion, and no legal obligation to ensure that trading is fair and orderly. In addition, the CFTC has no authority or obligation to monitor trading on ICE. As a result, there is no regulatory oversight of trading on ICE.

ICE's unregulated status is due to the 2000 enactment of the so-called Enron loophole in the CFMA, which added section 2(h)(3) to the CEA. Section 2(h)(3) exempts from CFTC

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[49] 7 U.S.C. § 7(b)(5) (2006).
[50] 7 U.S.C. § 7(d)(3) (2006).
[51] 7 U.S.C. § 7(d)(4) (2006).
[52] 7 U.S.C. § 7(d)(5) (2006).
[53] 7 U.S.C. § 7(d)(6) (2006).
[54] 7 U.S.C. § 7(d)(7) (2006). The CFTC's regulations at 17 C.F.R., Part 38, Appendix A, provide guidance on maintaining compliance with these core principles.
[55] See CFTC.gov, Designated Contract Markets Registered with the CFTC, at http://www.cftc.gov/dea/deadcms_table.htm?from=home&page=epexchcontent#Designated_Contract_Markets.

the previous months, Amaranth was able to report to its investors a net return of more than 15% for the first five months of the year.

In its monthly letter to investors Amaranth described May 2006 "as the worst month since inception." Amaranth's officers explained that after the successful month of April the fund had tried to reduce its positions and capture some of its gains but was unable to do so:

> Historically, the market has provided sufficient liquidity and opportunity for us to tailor the portfolio as desired despite rapidly changing market dynamics. This "expansion/contraction" approach has enabled us to generate more profits than if we had required the team to unwind trades aggressively whenever markets moved in our favor. In this case, as we endeavored to monetize gains (and reduce risk) within the portfolio, liquidity in the market seized up due to high volumes of producer hedging that oversaturated market demand for forward natural gas. While this was a humbling experience that has led us to recalibrate how we assess risk in this business, we believe certain spread relationships remained disconnected from their fundamental value drivers.[93]

It is not surprising that Amaranth had difficulty finding buyers when it tried to sell its high-priced spread positions. Generally, a buyer will be able to build a large position if he or she is willing to pay escalating prices to do so. As prices are rising, there will be plenty of sellers. The presence of many sellers at high prices, however, does not mean there will be many buyers at high prices. If a very few or only one trader had been doing all the buying as prices were rising, there may be even fewer or no buyers at all at the resulting high prices.

In addition, there is an inherent imbalance between buyers and sellers in the natural gas futures market. Generally, the producers of natural gas use the futures market to hedge their future sales and thus are generally sellers of futures contracts. Many end users, such as residential customers and even some LDCs, do not use the futures market to hedge their future purchases. The end result is that the natural gas market consists of more "natural" sellers than buyers.

Speculators in the natural gas market help balance out the buyers and sellers. By purchasing futures when they believe them to be under-priced, speculators help make up for the structural shortage of buyers and help producers hedge their future sales. [94] Amaranth had no difficulty finding sellers when it was buying contracts for the winter months while spread prices were high. In this instance, the presence of more sellers than buyers worked to Amaranth's advantage. When Amaranth decided to try to sell those high-priced positions, however, it could not find nearly enough buyers who were willing to pay even higher prices to take those positions from Amaranth. In this instance, the natural shortage of buyers worked against Amaranth.

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[93] Amaranth letter to investors from JPMorgan Chase, May 2006 Update, Bates No. JPM-PSI 00006981. In interviews with the Subcommittee, Amaranth traders provided similar explanations for their May losses.

[94] For a more detailed discussion of the financial strategies of producers and speculators, see also Hillary Till, *EDHEC Comments on the Amaranth Case: Early Lessons from the Debacle* (2006).

By the end of July, Amaranth was short nearly 60,000 contracts for September, 42,000 contracts for October, and 80,000 contracts for April 2007; it was long 80,000 contracts for January 2007, 60,000 contracts for March 2007, and 29,000 contracts for December 2007. Amaranth held about 40% of the total open interest in the NYMEX natural gas market for all of the winter months (October 2006 through March 2007).

G. Early August 2006: NYMEX Limits Amaranth; Amaranth Moves to ICE

"It is obviously better in every way for a stock to be held by a thousand people than by one man—better for the market in it."
--Reminiscences of a Stock Operator, p. 245.

During 2006, NYMEX repeatedly reviewed Amaranth's natural gas holdings to determine whether they exceeded NYMEX's established position limits or accountability levels. On several occasions, Amaranth traded large numbers of contracts near their expiration date, triggering NYMEX notices that the firm had violated NYMEX position limits; a CFTC investigation of one of these instances is still ongoing.

In August 2006, NYMEX took more forceful action to limit Amaranth's trading, directing Amaranth to reduce its positions in the NYMEX futures contracts not just for the September contracts that were about to expire, but also for its contracts in the following month of October. In response, Amaranth reduced its positions in those contracts on NYMEX, but at the same time increased its positions in the corresponding contracts on ICE. The end result was that Amaranth maintained and even increased its positions in contracts for September and October and preserved its ability to engage in large-scale trading as the September contract neared expiration. In fact, Amaranth's move enhanced its ability to conduct large-scale trading near the contract expiration, because, under current law, no market surveillance or position limits apply to trading on ICE.

1. Position Limits and Accountability Levels

As explained earlier, NYMEX officials are responsible for conducting day-to-day oversight of the exchange to ensure orderly trading and prevent fraud, manipulation, and excessive speculation. The CFTC is also responsible for reviewing the trading on regulated exchanges to prevent trading abuses, but it relies on the exchanges themselves to be the first line of defense against misconduct and to alert them to any concerns.

As part of its monitoring efforts, NYMEX compliance officials routinely review the positions of NYMEX traders to ensure they fall within NYMEX position limits and accountability levels. With respect to energy commodities, NYMEX has established a fixed position limit that applies during the last three days of trading of a futures contract. The NYMEX rule states: "No person may own or control a net long position or a net short position in the expiration or current delivery month in excess of [1,000 contracts]."[108]

[108] NYMEX Exchange Rulebook, 9.27 and Chapter 9, Appendix A.

For all months other than the expiration month, neither the CFTC nor NYMEX has chosen to establish any fixed position limits. Instead, for energy commodities, the CFTC has directed approved exchanges to establish "accountability levels" which, when exceeded, require a trader, upon request of the exchange, to provide information about its positions and, if ordered by the exchange, to reduce those positions. NYMEX has established three accountability levels for positions held by natural gas traders: (1) a net position of 12,000 natural gas contracts in a single month (called the "Any One Month Accountability" level);[109] (2) a net position of 12,000 natural gas contracts across all months (called the "All Month Accountability" level);[110] and (3) a net position of 1,000 NYMEX natural gas swaps within the last three trading days of the related physically settled futures contract (called the "Expiration Position Accountability" level).[111]

Traders are not prohibited from exceeding the NYMEX accountability levels, but NYMEX has the authority to require traders who exceed the levels to reduce those positions. Alternatively, NYMEX can temporarily increase the accountability levels for a particular trader if NYMEX concludes the trader's overall position in the market is not excessively concentrated in a particular commodity or contract. In making the determination of whether a trader's position is excessively concentrated, NYMEX considers only the trader's positions on the NYMEX exchange. NYMEX has no legal authority to place trading limits on another exchange, particularly an exempt commercial market like ICE.[112]

NYMEX surveillance officials routinely review the positions of NYMEX traders in relation to the accountability levels. Once a trader's futures contracts exceed an accountability level, NYMEX will review the trader's position in relation to the overall open interest in the contract to determine whether to allow the trader to maintain or increase its position, or whether to direct the trader to reduce its position.

Evaluating a trader's positions in relation to the NYMEX accountability levels may entail a detailed analysis of the trader's positions and the size of the market in a variety of related contracts. CFTC and NYMEX rules provide, for example, that, in addition to reviewing a trader's long and short futures contracts, NYMEX may consider the trader's positions in related NYMEX options and swaps. For example, if a trader has more than 12,000 futures contracts in one month, but also holds an offsetting position in NYMEX options for the same month, NYMEX may—and probably will—permit that trader to continue to hold that number of futures contracts, since the trader's overall position in the market is neutral. Another key factor in the NYMEX analysis is the trader's position relative to the whole market. A position of 12,000 contracts may be of extreme concern if the contract is near expiration and the total open interest in the contract is fewer than 20,000 contracts—in that instance, the trader's position is dominant relative to the rest of the market. On the other hand, a position of 12,000 contracts when expiration is several months away and the total open interest is over 100,000 contracts will be of

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[109] NYMEX Exchange Rulebook, 9.26 and Chapter 9, Appendix A.

[110] *Id.*

[111] NYMEX Exchange Rulebook, 9.27A and Chapter 9, Appendix A. The trader's net position is determined by adding up all the long positions and subtracting all the short positions.

[112] Section 2(h)(3) of the CEA specifically states that "nothing in this Act shall apply to an agreement, contract, or transaction in an exempt commodity" entered into on an electronic trading facility, other than specifically provided in the following paragraph. Section 2(h)(4) does not confer any authority, or authorize the CFTC to delegate any authority, to a designated contract market over trading on an exempt commercial market.

much less concern. It is also not unusual for futures contracts that will not expire for several years to have contracts held by only a handful of traders, and therefore some will hold a high percentage of the open interest. In many cases, NYMEX will determine that these traders' holdings do not constitute excessive market concentration.

After conducting this market analysis, NYMEX has frequently permitted individual traders to trade in excess of the Any and All position accountability levels set forth in its rules. In doing so, NYMEX has concluded, in effect, that these traders' holdings do not pose a sufficient risk of excessive speculation to harm the market. NYMEX accountability levels thus function, not as bright lines that no one may cross, but as triggers for further review.

Given the importance of the individualized market analysis that NYMEX performs in deciding how to apply its accountability limits to a particular trader, it is important to note that, when evaluating that trader's positions, NYMEX compliance personnel cannot obtain a complete view of the market and are forced to act with incomplete information. In particular, NYMEX personnel have no routine access to trading data on ICE, the other leading U.S. commodities market whose swaps and options have a direct impact on NYMEX prices.[113] This lack of access means that NYMEX personnel have no information on the trader's positions on ICE and no information on how those positions relate to the rest of the natural gas financial market. Despite the fact that many energy traders use both NYMEX and ICE, current law places NYMEX and the CFTC in the untenable position of having to evaluate traders' positions based upon their holdings on NYMEX, while blind to their holdings on ICE. Furthermore, even if the CFTC were to obtain information about a trader's positions on both exchanges showing that the trader's aggregate positions were excessive, under current law the CFTC has no authority to limit that trader's positions on ICE.

2. NYMEX Reviews of Amaranth's Positions

In 2006, Amaranth exceeded the NYMEX position limit for natural gas contracts on several occasions and repeatedly exceeded its natural gas accountability limits. During the year, NYMEX sent two warning letters to Amaranth regarding specific position limit violations, and repeatedly considered whether to require Amaranth to reduce its positions. As a result of information produced from NYMEX surveillance, the CFTC initiated an investigation into one incident involving Amaranth's trading near the expiration of the May 2006 contract. Apart from

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[113] Recently, in an effort to strengthen the enforceability of its position limit during the contract expiration month, NYMEX issued a new policy that requires any trader seeking an exemption from the position limit to disclose all of its positions over 1,000 contracts, including on other exchanges. NYMEX Compliance Advisory #01-07 – Policy Statement Related to Exemptions from Position Limits in NYMEX Natural Gas (NG) Futures Contracts, Notice No. 07-91, February 16, 2007. This policy, however, does not apply to any of NYMEX's accountability levels and so will not provide NYMEX with the information about a trader's positions that are not on NYMEX when evaluating whether to increase a trader's accountability levels. As of June 19, 2006, NYMEX has received only two applications for a position limit exemption in which a trader has disclosed positions outside of NYMEX. NYMEX's experience to date with its new policy suggests that absent a legal obligation upon a trader to disclose all of its positions to an exchange or to the CFTC, an exchange like NYMEX may, in fact, have no practical ability to obtain such information. Moreover, it is possible that additional NYMEX disclosure requirements may simply lead traders to increase their trading on other venues where such disclosure is not requested.

In May, NYMEX sought to limit Amaranth's trading at the expiration of the June contract. In this instance, after reviewing Amaranth's positions in the June contract, NYMEX contacted Amaranth's clearing firm, JPMorgan Chase, to remind it that Amaranth needed to comply with its expiration position limits. After receiving this message from NYMEX, one JPMorgan Chase official wrote to another, "Would you please remind Amaranth that they need to be at/below their NYMEX Nat Gas exempt level COB May 23."[117]

Amaranth did not heed these instructions. On May 31, following the expiration of the June contract, NYMEX sent a second warning letter to Amaranth. NYMEX wrote:

> The records of the Exchange show that Amaranth, LLC ("Amaranth") exceeded its current delivery month ("spot month") hedge exempt position limit of 2,500 contracts on two trade dates. At the close of business of May 23 and May 26, 2006, Amaranth maintained open commitments of 8,488 short and 3,363 long contracts, respectively. These open commitments exceeded your firm's spot month hedge exempt position limit by 5,988 and 863 contracts, respectively.
>
> Owing to your firm's violations of the spot month NG position limit, and in accordance with the provisions of Exchange Rule 9.36, this letter shall constitute a warning to your firm. Please note that a previous violation of this rule was addressed in a warning letter issued to your firm on March 13, 2006. Any further violation of the Exchange's position limit rules will be handled pursuant to Rule 9.36 and may ultimately result in extraordinary sanctions as specified by this rule.[118]

The next day, June 1, Amaranth yet again appeared on the list of traders exceeding NYMEX accountability levels. On this occasion, the reviewing official recommended increasing Amaranth's All Month Accountability levels which, at this time were fixed at 23,000 long contracts and 35,000 short contracts. Specifically, the reviewing official recommended that Amaranth's accountability level be increased from 23,000 to 40,000 for long contracts, while

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[117] E-mail from Vincent J. Leale to Aldo J. Solares, May 19, 2006, Bates # NX-USSEN 028552.

[118] Letter from Nancy M. Minett, Vice President, Compliance Division, NYMEX, to Mike Carrieri, Chief Compliance Officer, Amaranth LLC, May 31, 2006, Bates No. NX-USSEN 081734. In issuing these two warning letters, NYMEX was acting pursuant to the procedures specified in the rules of the exchange for violations of position limits. NYMEX Rule 9.36(B) provides that a first violation "will not be deemed a rule violation, however, it will result in a warning letter being issued by the Compliance Staff to the customer." Rule 9.36(C) states "The occurrence of a second speculative position limit by a customer will subject the customer to a warning letter issued by the Compliance Staff stating that any future violation by the customer of the speculative position limits rules may result in extraordinary sanctions, including, but not limited to, conditioning, limiting, or denying access of such customer to the market." On July 11, 2006, NYMEX rescinded the violation pertaining to trading on May 23, but retained the violation and warning regarding Amaranth's positions on May 26. Letter from Anthony V. Densieski, Senior Director, Market Surveillance, NYMEX, to Mike Carrieri, Chief Compliance Officer, Amaranth LLC, July 11, 2006. Bates # NX-USSEN 081736. See also instant message, Bates. No. AALLC_REG0595133 (Brian Hunter sends a message to another trader. "thanks for the Nymex/ICE... we were kind of hung...[Amaranth trader Matt] Donohoe messed up." Other trader responds, "what is that about... ar [are] they not the same thing?" Hunter says, "we have exachnge [exchange] limits." Trader: "u got me very confused." Hunter: "on Nymex not on ICE... for June expiry... they settle the same... but Nymex sends out warning letter... which is bad for fund.").

Figure 46

Amaranth Open Interest, NYMEX Natural Gas Futures Contract for October 2006

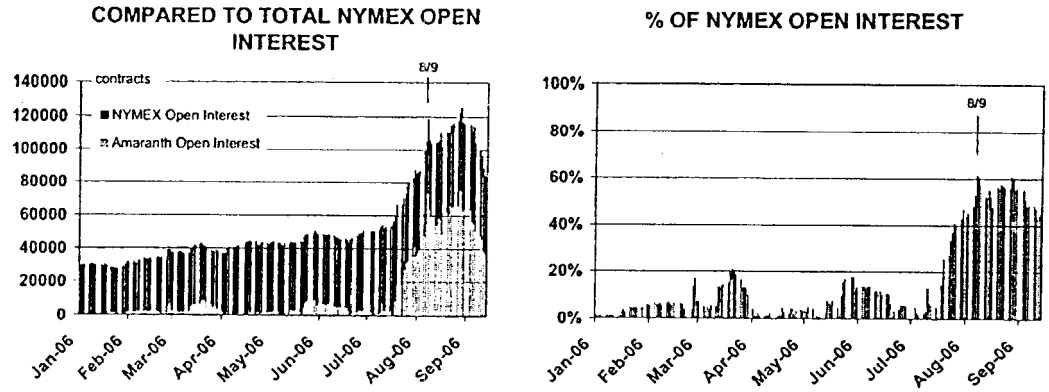

Fig. 46. In early August 2006, Amaranth held 40-60% of the open interest (short) in the October 2006 NYMEX futures contract. As a result, NYMEX directed Amaranth to reduce these positions. Data source: NYMEX.

Amaranth told NYMEX it had "understood [NYMEX's] concern to be the spot month only," and so had "brought its September 2006 position down through rolls into the October [contract], so that its October position is higher at this point." Amaranth also told NYMEX that it was "almost net-flat insofar as risk." Mr. LaSala "informed [Mr. Carrieri] that the outright natural gas future position of -51,615 was a concern in addition to the earlier stated September position."[123]

Table 18
Amaranth: NYMEX
Natural Gas Futures

	Sep 06	Oct 06
8/7	-53,979	-47,995
8/8	-48,600	-55,650
8/9	-24,290	-73,210
8/10	-24,277	-63,994

On August 10, Mr. LaSala told Mr. Carrieri of his "alarm at Amaranth's position of -66,837 natural gas futures in the October 2006 contract, 63.47% of open interest. Mike was informed that this percentage was unacceptable and that it must begin bringing the position down immediately. Once again, Tom stressed commercially reasonable trading manner." Mr. Carrieri replied that Amaranth would comply with NYMEX's directives, noting that "the increase in the October position was due to traders rolling the September position to bring the percentage of September positions into line and that those trades occurred prior to our midday conversation on August 9."[124]

On August 11, Mr. LaSala and Mr. Carrieri again spoke. Based on Amaranth's reduction to a short position of about 22,000 natural gas futures contracts for September 2006, which represented about 29% of the NYMEX open interest, and an overall short position on NYMEX of about 14,000 contracts, NYMEX told Amaranth its revised position "was a comfortable percentage of open interest." Mr. LaSala cautioned Amaranth "to be mindful of his open

[123] *Id.*
[124] *Id.*

interest percentage as the spot open interest begins dropping and to manage his position accordingly in line with the figures of 30-40% of open interest as discussed with Tom"[125]

Amaranth complied with NYMEX's directions and reduced its positions on NYMEX in the September and October futures contracts. At the same time, however, Amaranth increased its positions in the corresponding September and October swaps on ICE. Although NYMEX succeeded in reducing Amaranth's positions in the expiring natural gas futures contract, Amaranth maintained a comparable number of positions in the expiring ICE swaps. Soon afterwards, Amaranth even increased those positions on ICE. By switching its positions to ICE, Amaranth preserved its ability to trade large volumes of an expiring contract near the expiration of that contract.

Indeed, it is clear from Amaranth's records that Mr. Hunter viewed the absence of position limits as a major reason to trade on ICE rather than on NYMEX. In an instant message conversation on April 25, 2006—the day prior to the expiration of the May contract—another trader wrote to Mr. Hunter, "everyone is high on ICE these days. You think its had its day or more to go?" Mr. Hunter replied: "one thing that's nice is there are no expiration limits like Nymex clearing."[126]

Figure 47

Amaranth Positions Before and After NYMEX Directed Amaranth to Reduce Positions

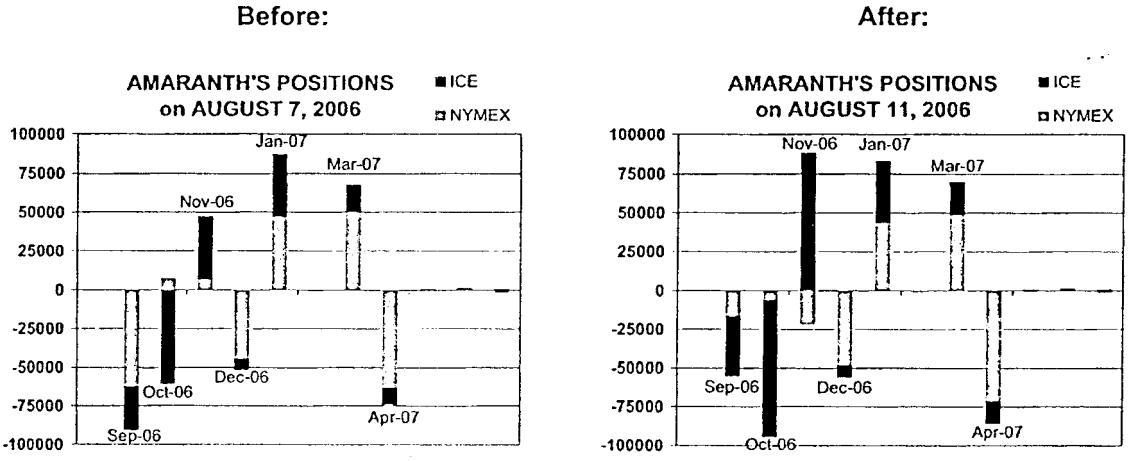

Fig. 47. On August 8, NYMEX instructed Amaranth to reduce its NYMEX positions in the September and October futures contracts. Amaranth complied with the NYMEX order but increased its positions in the related ICE swap contracts, thereby maintaining—and even increasing—its position and risk profile for those months. Data sources: NYMEX and ICE.

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[125] *Id.*

[126] Instant Message between Brian Hunter and another trader, April 25, 2006, Bates No. AALLC_REG0592988.

As the final day of trading approached for the September contract, NYMEX officials had become concerned that Amaranth might conduct a large volume of trading during the last half hour of trading, in the same manner it had on several occasions in the spring. The last half hour of trading is called the final settlement period because, as explained earlier, NYMEX uses the prices paid during that final half hour to calculate the expiring contract's final price. At approximately 11 a.m. on August 29, NYMEX compliance officials telephoned Amaranth's compliance officer, Mr. Carrieri, and informed him that Amaranth should trade in an orderly manner throughout the trading session, especially during the final half hour. According to NYMEX officials, they informed Amaranth that they did not want Amaranth to conduct a large volume of trading within the final settlement period in order to avoid distortions in the final settlement price. Mr. Carrieri relayed these instructions to the Amaranth traders.

In accordance with NYMEX's instructions, Amaranth concluded its trading on NYMEX around 1:15 p.m. Shortly afterwards, Amaranth concluded its trading on ICE. Amaranth traders explained to the Subcommittee that it considers its positions on NYMEX and ICE as components of an overall position, and hence, to keep its overall portfolio balanced, it needed to conclude the bulk of its trading on ICE at the same time as it concluded its trading on NYMEX. Amaranth explained that when it exited trading on NYMEX, it had largely achieved the risk profile it had sought for the day, and did not contemplate additional trading on ICE. As the September contract price and the September-October price spread had remained within satisfactory parameters from Amaranth's perspective during the trading prior to 1:15 p.m., it did not believe it was at significant risk by completing its trading at that time.

Shortly after Amaranth exited the market -- around 1:40 p.m -- the price of the September contract began to rise, and the price difference between the September and October contracts began to narrow. During this period, most of the trading was still taking place on ICE. ICE trading records indicate that for most of the day, there was one very large seller (Amaranth) and one very large buyer (Centaurus) of September contracts. Amaranth believed the price of the September contract would fall; Centaurus believed the price would rise. For most of the day, the buying pressure from Centaurus had been matched up against the selling pressure from Amaranth, and vice versa. The price of the September contract stayed relatively flat during this period. Centaurus intended to keep on buying as long as the difference in price between the October contract and the September contract was unusually wide. This could not happen while Amaranth was selling, as Amaranth's selling helped keep the spread wide. After Amaranth finished its selling, however, Centaurus's bidding for more September contracts was no longer matched by Amaranth's selling, and the price of the September contract began to rise. The rising price of the September contract narrowed the spread between the October and September contract.

In the last 45 minutes of trading on August 29, Centaurus bought nearly 10,000 September contracts on ICE and about 3,000 on NYMEX, including approximately 9,000 contracts between 1:40 and 2:10 p.m. Centaurus's buys represented a significant share of the total volume traded on both exchanges during that period for the September contract, including nearly 50% of the trading volume in the last hour of trading on ICE. As Figure 55 shows, just prior to the final half hour of trading, Centaurus's volume of buying was approximately equal to the total volume generated by all of the other buyers on NYMEX and ICE *combined.*

The price data underlying Figure 57 indicates that the price of the October/September spread opened at 36 cents, and fifteen minutes later began to rise. In just about an hour, from about 10:10 a.m. to 11:23 a.m., the price of the spread jumped from about 37 cents to 50 cents. This period, in which the price of the spread rose significantly, was the same time period in which Amaranth's buying of the spread was most heavily concentrated. At the end of the day, after Amaranth's buying had stopped, the price of the spread fell dramatically – about 40 cents in one hour. Similarly, during the final hour of trading, the price of the September contract jumped by about 60 cents – an increase of nearly 10%.

The day after trading concluded on the September contract, Amaranth charged that it had been the victim of apparent price manipulation and requested an investigation by market regulators. In a letter sent to NYMEX dated August 30, 2006, Amaranth wrote:

> As you are no doubt aware, during the last 60 minutes of trading in the September NG [natural gas] contract, the price of the September NG contract spiked up by approximately 10%. We believe that such price movements did not reflect bona fide supply and demand market forces. . . . We also believe that the trading that caused the price movements during the closing range of the September NG contract was motivated by the desire by one or more market participants to affect the settlement price of the September NG contract, which the public relies on as a key price benchmark for physical and financial contracts involving natural gas.[131]

Amaranth noted that "as a responsible market participant we abided by your request" not to execute any large orders during the last half hour of trading, and had "completely liquidated our September NG position by approximately 1:15 pm." "It is apparent to us," Amaranth contended, "that certain market participants are not trading in a responsible manner." Amaranth requested that NYMEX "immediately initiate an investigation into the trades and traders that caused yesterday's artificial price spike."

The Subcommittee interviewed NYMEX officials and numerous traders who were active in the natural gas market on August 29 about the events of that date and the reasons for the price spike. Based on these interviews, Amaranth's perception that the price spike towards the end of trading was "artificial" appears to be correct. There were no changes in the underlying fundamentals of supply and demand that suddenly emerged in the last hour of trading to precipitate the price spike. Rather, this volatility appears to have been caused in large part by the pattern of trading between the two largest traders in the natural gas market Amaranth's complaint that the September price spike in the final hour reflected the effects of large-scale trading rather than market forces is an observation that could equally be applied to its own trading earlier in the day.

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[131] Letter from Michael Carrieri, Compliance Director, Amaranth, LLC, to Anthony Densieski, Senior Director, Market Surveillance, NYMEX, August 30, 2006, Bates No. Amaranth_Senate012546.

In an instant message conversation with another trader right after the close of trading on August 29, Amaranth's top energy trader, Brian Hunter, complained about the trading activity during settlement:

> Brian Hunter: classic pump and dump boy I bet you see some CFTC inquiries for the last two days
>
> crummertd: until they monitor swaps no big deal its all swaps now
>
> Brian Hunter: any time there is a 70 cent rally in 40 minutes on no fundamental event ... it will get investigated ... for sure[132]

Although Mr. Hunter expressed certainty about a CFTC inquiry into the trading on August 29, the other trader seemed to dismiss any CFTC investigation as "no big deal," because the CFTC had no authority to monitor trading on ICE, where most of the trades had taken place. His observation underscores the reality that exempting ICE from CFTC oversight harms not only that unregulated market, but also NYMEX, a fully regulated market, by making both more vulnerable to market manipulation, excessive speculation, and unfair pricing.

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> *"The combination of precise formulas with highly imprecise assumptions can be used to establish, or rather to justify, practically any value one wishes . . . Calculus . . . [gives] speculation the deceptive guise of investment."*
> --Benjamin Graham, 1949[133]

The 60-cent increase in the price of the September contract and the associated drop in the price of the October/September spread caused a huge loss for Amaranth. On August 29, its daily profit and loss statements recorded a loss in the value of its natural gas holdings of nearly $600 million. Despite this enormous one-day loss, Amaranth still finished August with a net gain of $631 million for the month.

More ominous for Amaranth's long-term survival, however, were the increased margin calls and requirements that followed. Because its natural gas holdings had lost value, on August 30, Amaranth's margin requirements increased by $944 million. According to an internal memorandum from JPMorgan Chase, Amaranth's clearing firm, this margin call "resulted from Amaranth's activity on the ICE yesterday."[134] On August 31, Amaranth's margin requirements on ICE and NYMEX exceeded $2.5 billion; by September 8 they had surpassed $3 billion.

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[132] Amaranth Instant Message, Bates No. AALLC_REG0650031.
[133] Benjamin Graham, The Intelligent Investor, 4th ed. (New York, 1973), at pp. 315-321.
[134] Time line summarizing JPMorgan Chase's interactions with Amaranth through September 21, 2006; Bates No. JPM-PSI 00006032.